

ACO DRAIN

PowerDrain - S100K iron edged channels

GENERAL NOTES

- IT IS CUSTOMERS RESPONSIBILITY TO ENSURE THAT EACH PRODUCT IS FIT FOR ITS INTENDED PURPOSE AND THAT THE ACTUAL CONDITIONS ARE SUITABLE.
- IT IS THE CUSTOMERS RESPONSIBILITY TO FOLLOW ACO POLYMER PRODUCTS, INC. INSTALLATION INSTRUCTIONS FOR EACH PRODUCT. SEEK ENGINEERING ADVICE FOR INSTALLATIONS NOT ILLUSTRATED IN THE INSTALLATION GUIDELINES.
- FOR FURTHER PRODUCT INFORMATION, CUT SHEETS, SPECIFICATIONS AND INSTALLATION INSTRUCTIONS, PLEASE VISIT US AT OUR WEBSITE: WWW.ACOUSA.COM.
- ACO IS NOT RESPONSIBLE TO ENSURE PROPER FLOW TO SYSTEMS OUTLETS OR CATCH BASINS, REFER TO GRADING PLANS. ALL TRENCH DRAIN LAYOUTS ARE DESIGNED AT 0.0% LONGITUDINAL PAVEMENT SLOPE UNLESS OTHERWISE NOTED.

TRENCH NOTES

- ALL FABRICATIONS TO BE COMPLETED BY INSTALLING CONTRACTOR.
- DIMENSIONS ARE FROM OUTSIDE TO OUTSIDE

ALL DRAWINGS ARE AS ACCURATE AS THE INFORMATION SUPPLIED. ALL REASONABLE CARE HAS BEEN TAKEN IN COMPILING THE INFORMATION WITHIN. PLEASE REVIEW THIS INFORMATION FOR ACCURACY.

APPROVED _____
 REVISION AND RESUBMIT _____
 APPROVED AS NOTED _____
 REJECTED _____

SIGNED: _____
 DATE: _____
 COMMENTS: _____

LEGEND

- CHANNEL
- CENTER LINE
- INSTALLATION DIRECTION
- OF CHANNEL
- VOA = VERTICAL OUTLET ADAPTER
- BAU = BRICKSLOT ACCESS UNIT
- CC = CLOSING CAP
- OC = OUTLET CAP
- INV = INVERT
- HP = HIGH POINT
- LP = LOW POINT
- BO = BOTTOM OUTLET

KF AEROSPACE MUSEUM BC

DRAWN BY: KZ
 DATE: 04-26-2021
 SHEET NO.: 1 OF 1

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 DESIGN SERV. NO. REV.
 921-291

TRENCH DRAIN LAYOUT

SYSTEM(S) S100K	GRATE(S) LONG. D.L.	NO.	DESCRIPTION	DATE	BY

ACO SYSTEMS LTD.
 2005 BURNHAMTHORPE RD.
 UNIT 103
 MISSISSAUGA, ONT. L4X 1L3
 CANADA
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ACO DRAIN

PowerDrain - S100K iron edged channels

One meter channel

Half meter channel

Type 90D in-line catch basin

Knock-outs included on every 5th channel

Outlet flow rates

Outlet	Product	Outlet size (Each, 400)	Invert Depth	GPM	CFS
A	Bottom outlet - SK1-00	4" round	3.94'	108	0.24
B	Bottom outlet - SK1-40	4" round	11.81'	187	0.42
C	End outlet - SK1-20	4" round	3.94'	177	0.39
D	End outlet - SK1-40	4" round	11.81'	306	0.68
E	SK1-408/6 6" outlet cap	6" oval	7.87'	132	0.29
F	Type SK1-901D	4" round	11.81'	171	0.38
G	Type SK1-901D	4" round	25.37'	700	0.50
H	Type SK1-901D	4" round	25.87'	266	0.59
I	Type SK1-901D	4" round	18.16'	225	0.50
J	Type SK1-901D	4" round	26.29'	553	1.32
K	Type SK1-901D	4" round	27.22'	272	0.61
L	Type SK1-901D	4" round	20.11'	231	0.51
M	Type SK1-901D	6" round	27.79'	611	1.36
N	Type SK1-901D	6" round	20.65'	514	1.15
O	Type SK1-901D	6" round	27.79'	1063	2.37
P	Type SK1-901D	4" round	27.22'	601	1.34
Q	Type SK1-901D	4" round	27.79'	216	0.62
R	Type SK1-901D	4" round	21.30'	239	0.53
S	Type SK1-901D	4" round	19.73'	228	0.51
T	Type SK1-901D	6" round	27.79'	610	1.36

Total capacity = 10.49 gallons.

End Caps

0.125" (3mm)

1.85" (47mm)

6" Oval Inlet cap SK1-304-6

6" Oval outlet cap SK1-306-6

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ACO DRAIN

PowerDrain - S100K iron edged channels

ACO Specification Information

Description	Part No.	Invert Inches	mm	Weight Lbs.	Description	Part No.	Invert Inches	mm	Weight Lbs.
SK1-00 Cover depth channel - 39.37" (1m)	67041	3.94	100	48.1	SK1-20 Slotted channel - 39.37" (1m)	67028	3.94	100	75.0
SK1-10 Slotted channel - 39.37" (1m)	67001	4.13	105	48.1	SK1-20 Slotted channel - 39.37" (1m)	67029	9.05	230	75.0
SK1-2 Slotted channel - 39.37" (1m)	67002	4.33	110	48.1	SK1-30 Slotted channel - 39.37" (1m)	67030	9.84	250	75.0
SK1-3 Slotted channel - 39.37" (1m)	67003	4.53	115	96.1	SK1-40 Slotted channel - 39.37" (1m)	67031	11.81	300	75.0
SK1-4 Slotted channel - 39.37" (1m)	67004	4.72	120	96.1	SK1-000 Cover depth channel - 39.37" (1m)	67047	9.84	250	77.0
SK1-5 Slotted channel - 39.37" (1m)	67005	4.92	125	96.1	SK1-000 Cover depth channel - 39.37" (1m)	67048	9.84	250	34.4
SK1-6 Slotted channel - 39.37" (1m)	67006	5.12	130	96.1	SK1-10 Slotted channel - 39.37" (1m)	67022	10.24	260	75.0
SK1-7 Slotted channel - 39.37" (1m)	67007	5.33	135	96.1	SK1-10 Slotted channel - 39.37" (1m)	67023	10.24	260	80.0
SK1-8 Slotted channel - 39.37" (1m)	67008	5.53	140	96.1	SK1-15 Slotted channel - 39.37" (1m)	67024	10.64	270	80.0
SK1-9 Slotted channel - 39.37" (1m)	67009	5.73	145	96.1	SK1-15 Slotted channel - 39.37" (1m)	67025	10.64	270	85.0
SK1-10 Slotted channel - 39.37" (1m)	67010	5.93	150	96.1	SK1-20 Slotted channel - 39.37" (1m)	67026	11.04	280	80.0
SK1-000 Cover depth channel - 39.37" (1m)	67049	5.93	150	97.1	SK1-20 Slotted channel - 39.37" (1m)	67027	11.20	285	84.0
SK1-000 Cover depth channel - 39.37" (1m)	67049	5.93	150	97.1	SK1-20 Slotted channel - 39.37" (1m)	67028	11.60	290	85.0
SK1-11 Slotted channel - 39.37" (1m)	67011	6.10	155	96.1	SK1-20 Slotted channel - 39.37" (1m)	67029	11.60	290	86.0
SK1-12 Slotted channel - 39.37" (1m)	67012	6.30	160	96.1	SK1-40 Slotted channel - 39.37" (1m)	67040	11.81	300	81.0
SK1-13 Slotted channel - 39.37" (1m)	67013	6.50	165	60.1	SK1-000 Cover depth channel - 39.37" (1m)	67049	11.81	300	87.0
SK1-14 Slotted channel - 39.37" (1m)	67014	6.69	170	61.1	SK1-000 Cover depth channel - 39.37" (1m)	67050	11.81	300	43.0
SK1-15 Slotted channel - 39.37" (1m)	67015	6.89	175	62.1	SK1-000 In-line catch basin - 19.68" (50cm)	67061	28.23	717	84.0
SK1-16 Slotted channel - 39.37" (1m)	67016	7.09	180	63.1	SK1-000 In-line catch basin - 19.68" (50cm)	67062	28.23	717	75.0
SK1-17 Slotted channel - 39.37" (1m)	67017	7.28	185	64.1	SK1-000 In-line catch basin - 19.68" (50cm)	67063	40.88	1038	87.0
SK1-18 Slotted channel - 39.37" (1m)	67018	7.48	190	65.1	SK1-000 In-line catch basin - 19.68" (50cm)	67064	-	-	10.0
SK1-19 Slotted channel - 39.37" (1m)	67019	7.68	195	66.1	SK1-000 In-line catch basin - 19.68" (50cm)	67065	-	-	1.0
SK1-20 Slotted channel - 39.37" (1m)	67020	7.87	200	67.1	SK1-000 In-line catch basin - 19.68" (50cm)	67066	-	-	1.0
SK1-000 Cover depth channel - 39.37" (1m)	67049	7.87	200	67.1	SK1-000 In-line catch basin - 19.68" (50cm)	67067	-	-	1.0
SK1-21 Slotted channel - 39.37" (1m)	67021	8.07	205	68.10	SK1-000 In-line catch basin - 19.68" (50cm)	67068	-	-	1.0
SK1-22 Slotted channel - 39.37" (1m)	67022	8.27	210	69.10	SK1-000 In-line catch basin - 19.68" (50cm)	67069	-	-	1.0
SK1-23 Slotted channel - 39.37" (1m)	67023	8.46	215	70.0	SK1-000 In-line catch basin - 19.68" (50cm)	67070	-	-	1.0
SK1-24 Slotted channel - 39.37" (1m)	67024	8.66	220	71.0	SK1-000 In-line catch basin - 19.68" (50cm)	67071	-	-	1.0
SK1-25 Slotted channel - 39.37" (1m)	67025	8.86	225	72.0	SK1-000 In-line catch basin - 19.68" (50cm)	67072	-	-	1.0
SK1-26 Slotted channel - 39.37" (1m)	67026	9.06	230	73.0	SK1-000 In-line catch basin - 19.68" (50cm)	67073	-	-	1.0
SK1-27 Slotted channel - 39.37" (1m)	67027	9.25	235	74.0	SK1-000 In-line catch basin - 19.68" (50cm)	67074	-	-	1.0

Notes:

- The channel offers bottom knockout features: 4" round/6" oval.
- Inverts shown are male end; for female invert depth subtract 5mm (1/8") from male invert.
- Calculable overall channel depth add 20.6mm (1") to invert depth.
- Catch basin assembly includes polymer concrete top, trash bucket and plastic base. Drain included.
- Catch basin assembly includes polymer concrete top, deep trash bucket, plastic rear and plastic base. Drain not included.
- Water table per meter channel is 50.4 m³ (1325.16 cfm).
- See 4" width ductile iron grate specification for grate details.

Specifications

General

The surface drainage system shall be ACO Drain PowerDrain S100K as manufactured by ACO, Inc. or equal approved. (Add appropriate grate - see grate information).

Materials

The trench system bodies shall be manufactured from polymer concrete with minimum properties as follows:

Compressive strength: 14,000 psi

Flexural strength: 4,000 psi
Water absorption: 0.07%
Freeze proof: YES
Salt proof: YES
Alkali and acid resistant: YES

The nominal clear opening shall be 4" (100mm) with overall width of 6.32" (160mm). Pre-cast units shall be manufactured with either an inset slope of 0.5% or with neutral invert and have a wall thickness of at least 0.67" (16mm). Each unit will feature a partial radius in the trench bottom and a male to female interconnecting end profile. Units shall have horizontal cast in anchoring keys on the outside wall to ensure maximum mechanical bond to the surrounding bedding material and pavement surface.

The ductile iron edge rail will be integrally cast in by the manufacturer to ensure maximum homogeneity between polymer concrete body and edge rail. Each edge rail shall be at least 1.4" (35mm) thick.

Installation

The trench drain system shall be installed in accordance with the manufacturer's installation instructions and recommendations.

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ACO DRAIN

4" width - ductile iron longitudinal grate

Product Features

- Certified to EN 1433 Load Class F - 200,000 lbs - 4,182 psi
- Uses PowerLok® boltless locking system
- Suitable for use with S100K and H100K channels
- Manufactured from ductile iron to ASTM A 536-84 - Grade 304 65-45-12
- Anti-Shunt lugs

Specifications

General

The surface drainage system shall be ACO PowerDrain or SubDrain, complete with ACO ductile iron longitudinal grate with PowerLok locking as manufactured by ACO, Inc. or similar approved.

Materials

The covers shall be manufactured from ductile iron and have minimum properties as follows:

- Independently certified to meet Load Class F to EN 1433 - 200,000 lbs - 4,182 psi
- Ductile iron to ASTM 536-84 - Grade 65-45-12
- Intake area of 154 sq. cm per 1/2 meter of grate

The overall width of 5.43" (138mm) and overall length of 19.68" (500mm). Slots measure at a maximum of 1.35" (34mm).

Grate

Grate is longitudinal ductile iron. Ductile iron ASTM 536-84 - Grade 65-45-12. After removal of grates there shall be uninterrupted access to the trench to aid maintenance. Grates can be used for PowerDrain or SubDrain.

Installation

The trench drain system and grates shall be installed in accordance with the manufacturer's installation instructions and recommendations. * denote as appropriate

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ACO DRAIN

4" width - ductile iron longitudinal grate

Plan view

Side elevation

Description

Description	Part No.	Length inches (mm)	Width inches (mm)	Weight Lbs.
PowerLok grate SK1 ductile iron longitudinal grate - C F	96096	19.68 (500)	5.43 (138)	13.6

PowerLok locking mechanism

PowerLok Grate ACO PowerLok is a patented boltless locking system. Grates are removed and replaced with minimum time and effort for ease of maintenance.

Lug The PowerLok device is used to engage the lug on the rail at two locations per grate to 'lock' the grate to the channel.

PowerLok Device 'unlocked' position

PowerLok Device 'locked' position

PowerLok Rail

Recess in Grate

PowerLok Rail

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ACO DRAIN

4" width - ductile iron longitudinal grate

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ACO DRAIN

4" width - ductile iron longitudinal grate

ACO Specification Information

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